

STRUCTURE AND ECONOMIC GEOLOGY

U.S. GEOLOGICAL SURVEY
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COMMISSIONERS

PENNSYLVANIA
CLARION QUADRANGLE



LEGEND

SEDIMENTARY ROCKS

Areas of subaqueous deposits are shown by patterns of parallel lines, subaerial deposits by patterns of dots and circles

- Recent**
- Qal Alluvium (in flood plains of present streams)
 - Qlt Lower terrace deposits (sand, silt, clay and gravel; product of local derivation on low terraces)
 - Qcm Carmichaels formation (high terrace sand, silt, clay and gravel; product of local derivation on low terraces)
- Quaternary**

- Pennsylvanian**
- Ccm Conemaugh formation (soft olive shale, sandy shale, and locally heavy sandstone near base, with thin coals and limestone)
 - Cev Allegheny formation and Vamport limestone member (iron-bearing shale, fine-grained to conglomeratic, sandstone, limestone, and valuable beds of coal and clay)
 - Cpv Pottsville formation (massive sandstone with large shale lenses and thin seams of coal)
- Mississippian (Recent group)**
- Cbg Burgoon sandstone (massive to thin bedded sandstone with many small lenses of soft shale and thin seams of coal)

ECONOMIC AND STRUCTURE DATA

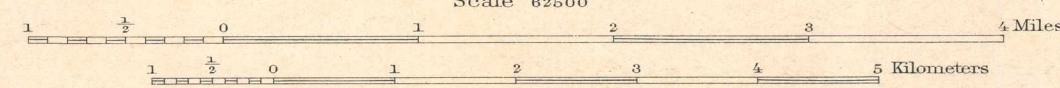
- Coal outcrops and area underlain by coal (dashed lines represent coals not known to be workable)
- Structure contours drawn on the top of the Vamport limestone (contour interval is 25 feet; datum is mean sea level)
- Shipping coal mines (unless otherwise specified)

Note: Most of the workable coals are in the Allegheny thin coals in Conemaugh and Pottsville, limestone and cement materials in Allegheny and Conemaugh, clay and shale for brick and tile in all Carboniferous formations; building stone in Burgoon, Pottsville, Allegheny, and Conemaugh; iron ore in Pottsville and Allegheny; glass and building sand in Pottsville and Burgoon; gravel and sand in alluvium and terrace deposits. Distribution of oil and gas wells and pools shown on separate map.

H.M. Wilson, Geographer.
Robt. D. Cummin and J.H. Jennings, in charge of section.
Topography by Robt. D. Cummin and E.W. McCrary.
Control by E.L. McNair and W.T. Griswold.
Surveyed in 1905 and 1906.

SURVEYED IN COOPERATION WITH THE STATE OF PENNSYLVANIA.

APPROXIMATE MEAN DECLINATION 1906.



Contour interval 20 feet.

Datum is mean sea level.

Edition of Nov. 1910.

Pre-Quaternary geology by E.F. Lines.
Quaternary geology by E.W. Shaw.
Surveyed in 1907 and 1910.
SURVEYED IN COOPERATION WITH THE STATE OF PENNSYLVANIA.